REMARKS

By the present response, Applicant has canceled claim 11 without disclaimer. Further, Applicant has amended claims 1, 8, 14 and 20 to further clarify the invention. Claims 1, 2, 4-8, 10 and 12-25 remain pending in the present application.

In the Office Action, claims 8 and 10-16 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,049,535 (Ozukturk et al.). Claims 20-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ozukturk et al. Claims 17-19 and 23-25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ozukturk et al. in view of U.S. Patent No. 5,376,894 (Petranovich). Claims 1, 2, 4 and 5-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Petranovich in view of Ozukturk et al.

Examiner Interview

Applicant thanks the Examiner for the personal interview and subsequent telephone discussion held with Applicant's representative on January 11, 2006 and January 17, 2006, respectively. During the personal interview, the Examiner agreed to take a closer look at the claim limitations related to the CPU and phase estimation as recited in claim 1, in view of the applied arts and get back to the Applicant, which occurred with the telephone discussion mentioned previously.

Response to Arguments

In the "Response to Arguments" section of the Office Action, the Examiner maintains that Ozukturk discloses converted information including converted phase value of a received pilot signal by Ozukturk's disclosure of code phase of the associated pilot signal being changed responsive to an acquisition value until a detector indicates the presence of the despread associated pilot code signal by changing the acquisition signal value, and cites numerous portions of Ozukturk et al. However, these portions of Ozukturk et al. do not disclose or suggest a matched filter that outputs converted synchronization signals based on received data and converted information of the received data where the converted information comprises converted phase values (Cos A and Sin A) of a received pilot signal, as recited in the claims of the present application. The disclosure in Ozukturk et al. of a code phase of an associated pilot signal being changed responsive to an acquisition signal value does not disclose or suggest these limitations in the claims of the present application. Ozukturk does not disclose or suggest the code phase of the associated pilot signal in Ozukturk being a basis for a matched filter outputting converted synchronization signals, as recited in the claims of the present application.

35 U.S.C. § 102 Rejections

Claims 8 and 10-16 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Ozukturk et al. Claim 11 has been canceled. Applicant respectfully traverses these rejections as to the remaining pending claims.

Regarding claims 8 and 14, Applicant submits that Ozukturk et al. does not disclose or suggest the limitations in the combination of each of these claims. For example, the Examiner asserts that Ozukturk et al. discloses estimating synchronization data based on received data, in Figure 17 elements 1730, 1304, col. 45, lines 15-35 and col. 47, lines 50-55. However, these portions of Ozukturk et al. merely disclose that I and Q CDMA channel signals are sampled and converted to digital received message signals using an A/D converter and that time synchronization of the receiver to the received signal is separated into two phases, and that acquisition and tracking algorithms are used by the receiver to determine the approximate code phase of a received signal, synchronize the local modem receiver despreaders to the incoming pilot signal, and track the phase of the locally generated pilot code sequence with the receiver pilot code sequence. These portions do not disclose or suggest estimating synchronization data based on received data, as recited in the claims of the present application. These portions merely disclose receiving I and Q CDMA channels and digitizing these signals. This is not synchronization data, or estimating synchronization data.

Further, acquisition and tracking algorithms are not estimating synchronization data based on received data, as recited in the claims of the present application.

The Examiner further asserts that Ozukturk et al. discloses generating decoded data based on the received data in a code, at col. 45, lines 50-56. However, these portions merely disclose that phase and frequency shift in the received signal relative to the transmitted signal are calculated and used to derotate the phase shifts and rotate and combine blocks for combining to produce output signals that are then Viterbi decoded in Viterbi decoders to remove the convolutional encoding in each of the received message channels. This is not generating decoded data based on the received data and a code where the code corresponds to a synchronization time of the synchronization data, as recited in the claims of the present application. Ozukturk et al. discloses Viterbi decoders. These are not a code corresponding to a synchronization time of the synchronization data, that was previously estimated based on the received data. The Examiner further asserts that col. 20, lines 18-21 and col. 27, lines 12-17 disclose a code corresponding to a synchronization time or synchronization data. However, these portions merely disclose that the code period for the CDMA spreading code to modulate logical channels is a certain number of chips per code period, which is the same number of chips for all band widths, and that when the tracking circuit generates a zero value, this value corresponds to the perfect time alignment called the lock-point. These portions of Ozukturk et al. have nothing to do with a code corresponding to a

synchronization time of an estimated synchronization data, as recited in the claims of the present application.

Moreover, the cited portions of Ozukturk et al. do not disclose or suggest outputting an average value of phase information obtained by averaging the synchronization data and the decoded data and using the converted phase value, or generating a cosine A signal and a sine A signal to identify a converted phase value of the received data in a pilot signal.

The Examiner further asserts that Ozukturk discloses generating a synchronization signal and a converted phase value of a pilot signal with a matched filter based on received data, in Fig. 17 element 1730, 1304, and col. 45, lines 15-35 and col. 46, lines 22-25. However, as noted previously, these portions of Ozukturk do not disclose or suggest generating a synchronization signal, as recited in the claims of the present application. Ozukturk discloses an Adaptive Match Filter that resolves multipath interference introduced by the air channel, where the Adaptive Matched Filter uses an 11 stage complex FIR filter. This is not generating a synchronization signal and a converted phase value of a pilot signal with a matched filter based on received data, as recited in the claims of the present application. The AMF disclosed in Ozukturk et al. does not disclose or suggest generating a synchronization signal and a converted phase value of a pilot signal based on received data. Moreover, Ozukturk et al. does not disclose or suggest establishing an averaging period based on the synchronization signal and the converted phase value.

Regarding claims 10, 12, 13, 15 and 16, Applicant submits that these claims are dependent on one of independent claims 8 and 14 and, therefore, are patentable at least for the same reasons noted previously regarding these independent claims.

Accordingly, Applicant submits that Ozukturk et al. does not disclose or suggest the limitations in the combination of each of claims 8, 10 and 12-16 or the present application. Applicant respectfully requests that these rejections be withdrawn and that these claims be allowed.

35 U.S.C. § 103 Rejections

Claims 20-22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ozukturk et al. Applicant respectfully traverses these rejections.

Regarding claim 20, Applicant submits that Ozukturk et al. does not disclose or suggest a receiver for a communication system that includes a filter means for generating a synchronization signal and a converted phase value of a pilot signal based on a received data, a processor means for establishing an averaging based on the synchronization signal and the converted phase value, or an averaging means for averaging the converted phase value with decoded data during the averaging period to create phase information for the averaging period. The Examiner provides no portions of Ozukturk et al. that discloses these limitations but merely states that these limitations are merely restating the function of specific steps of a method claim recited in claim 14. However, Applicant submits that the Examiner must specifically point out

where each limitation in the claims of the present application are disclosed or suggested in any cited reference. A reference may include a method or process and not necessarily include a related apparatus, and vice versa. In any event, as noted previously, Applicant submits that Ozukturk et al. does not disclose or suggest generating a synchronization signal and a converted phase signal of a pilot signal based on received data, an averaging period based on the synchronization signal, or a filter means a processor and an averaging means for accomplishing these limitations as recited in the claims of the present application.

Regarding claims 21 and 22, Applicant submits that these claims are dependent on independent claim 20 and, therefore, are patentable at least for the same reasons noted previously regarding this independent claim.

Accordingly, Applicant submits that Ozukturk et al. does not disclose, suggest, or render obvious the limitations in the combination of each of claims 20-22 of the present application. Applicant respectfully requests that these rejections be withdrawn and these claims be allowed.

Claims 17-19 and 23-25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Ozukturk et al. in view of Petranovich. Applicant respectfully traverses these rejections. Petranovich discloses phase estimation and synchronization using a PSK demodulator. Applicant submits that claims 17-19 and 23-25 are dependent on one of independent claims 14 and 20 and, therefore, are patentable at least for the same reasons noted previously regarding these independent claims. Applicant submits that Petranovich does not

overcome the substantial defects noted previously regarding Ozukturk et al. Accordingly, Applicant submits that none of the cited references, taken alone or in any proper combination, disclose suggest or render obvious the limitations in the combination of each of claims 17-19 and 23-25 of the present application. Applicant respectfully requests that these rejections be withdrawn and that these claims be allowed.

Claims 1, 2, 4 and 5-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Petranovich in view of Ozukturk et al. Applicant respectfully traverses these rejections.

The Examiner asserts that Petranovich discloses a matched filter that outputs converted synchronization signals based on received data and converted information of the received data, in Fig. 7 element 30 and col. 6, lines 27-45, 64-67, and col. 7, lines 1 and 2. However, these portions of Petranovich merely disclose a receiver that recovers digital data from an analog input signal that includes a band pass filter that eliminates out of band signals including spurious mixing images and other channel transmissions, reduces noise, and shapes the desired signal. This is not a matched filter that outputs converted synchronization signals based on received data and converted information of the received data, as recited in the claims of the present application. These portions of Petranovich merely disclose a band pass filter that receive radio signals and passes them on to other band pass filters. The band pass filter in Petranovich does not disclose or suggest outputting converted synchronization signals, or outputting synchronization signals based on received data and converted information of the received data.

The Examiner asserts that these limitations are disclosed in Petranovich at col. 7, lines 60-67, col. 8, lines 1-12, and reference character 22 in Fig. 7. However, these portions merely disclose a general purpose processor that is coupled to a demodulator module and receives the digital data mentioned previously. This is not a CPU that receives converted synchronization signals and converted information to provide a first output signal based on the converted synchronization signals or the converted information outputted from the matched filter, as recited in the claims of the present application. Petranovich merely discloses a CPU that receives original digital data from a demodulator for further processing. Moreover, none of the cited references disclose or suggest a CPU that receives the converted synchronization signals and the converted information to provide a first output signal based on the converted synchronization signals and the converted information outputted from the matched filter, or a phase estimator that generates decoded data based on the received data, the estimator having a first averager that receives the first output signal from the CPU, the decoded data, and the converted information to generate the phase information.

In addition, as noted previously, none of the cited references disclose or suggest where the converted information includes converted phase values (cosine A and sine A) of a received pilot signal.

Regarding claims 2, 4 and 5-7 Applicant submits that these claims are dependent on independent claim 1 and, therefore, are patentable at least for the same reasons noted previously regarding this independent claim.

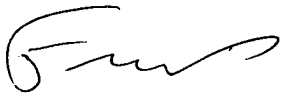
Accordingly, Applicants submits that none of the cited references, taken alone or in any proper combination, disclose suggest or render obvious the limitations in the combination of each of claims 1, 2, 4 and 5-7 of the present application. Applicant respectfully request that these rejections be withdrawn and that these claims be allowed.

CONCLUSION

In view of the foregoing Amendments and Remarks, Applicant submits that claims 1, 2, 4-8, 10, and 12-25 are now in condition for allowance. Accordingly, early allowance of such claims is respectfully requested. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, Frederick D. Bailey, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP



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